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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MAIS, MARK A	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 09/782,973	**Applicant(s)** KELLY ET AL.	
	Examiner Mark A. Mais	**Art Unit** 2664	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 14 November 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☐ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

   The status of the claim(s) is (or will be) as follows:

   Claim(s) allowed: _____.

   Claim(s) objected to: _____.

   Claim(s) rejected: *1,3-9,11-17,19-25 and 27-32*.

   Claim(s) withdrawn from consideration: *2,10,18 and 26*.

Ajit Patel
Primary Examiner

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See attached Response to Amendment.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant has canceled claims 2, 10, 18, and 26 and amended claims 1, 9, 17, and 25, respectively, to include the subject matter from each canceled claim.

2. For purposes of appeal, amended claims 1, 3-9, 11-17, 19-25, and 27-32 will be entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3-5, 8-9, 11-13, 16-17, 19-21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. (USP 6,674,731) in view of Gernert et al. (USP 6,600,734).

5. With regard to claims 1, 9, and 17, Bradshaw et al. discloses the transmission of TCP/IP data over a satellite link from a hub station to a plurality of remote terminal units **[Abstract]**. Bradshaw et al. further teaches user terminals **[col. 4, lines 58-61]** (hosts) connected to remote units **[col. 4, lines 65-67]** (terminal unit). The remote unit contains a receiver **[col. 4, lines 14-15]** and a transmitter **[Fig. 8]** for two-way communication. Bradshaw et al. also teaches the hub use

of DVB format data frames **[col. 3, lines 47-49]**. It is inherent that the receiver must contain MAC to DVB converter **[col. 12, lines 38-40]** to conform to DVB protocol format that is supported by the hub **[col. 3, line 49]**. Bradshaw et al. also teaches an RF receiver coupled to an antenna to permit exchange of data between the remote terminal and the satellite **[Fig. 10]**. It is inherent that a burst demodulator must be present in the RF receiver for demodulating the signal over the satellite link due to the nature of satellite communications. The data frame conforms with the DVB protocol format (i.e., the return channel frame format **[col. 3, line 49]**. The satellite-to-hub interface is inherent in the Bradshaw et al. specification. Moreover, the hub station **[Fig. 2, 104]** is shown with the antenna and the RF transmitter/receiver (inherent). Thus, these elements are interpreted as the satellite-to-hub interface. Bradshaw et al. further teaches that the hub is connected to an external packet switched network **[Fig. 2, element 24; col. 4, lines 25-29]**. Which, in this case, is the internet. It is inherent that the hub must be able to convert the protocol data frame receive over satellite to requests from content servers **[col. 5, lines 13-17]**. Bradshaw et al. teaches a multi-layer protocol interface for the hub-to-terminal as the TCP/IP data is encapsulated into a MAC data frame **[col. 7, lines 62-63]** and because the TCP/IP frames are also formatted within the DVB frame **[col. 8, lines 47-51]**.

6. Bradshaw et al. fails to specifically disclose the transmission of data bursts from the terminal to the host **[although, as noted above, it is inherent in satellite communications to have a burst channel demodulator]**. Gernert et al. discloses several bus standards for connecting the host **[col. 10, lines 47-48]**. The buses specifically support (common) bursty video traffic. Gernert et al. discloses wireless LAN communications **[Abstract]**. Bradshaw et al. discloses

both hardwired and wireless terminals connected to hosts via LAN 116. The can be a standardized bus such as the IEEE 802.6 DQDB for conveying bursty video, which also has the advantage of improved performance characteristics. Moreover, both Bradshaw et al. and Gernert et al. involve integrated services. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the LAN bus capable of handling bursty traffic because integrated services require interoperability between receipt and use of regular and bursty transmissions that contribute to improved performance characteristics.

7. With regard to clams 3, 11, and 19, Bradshaw et al. dos not specifically disclose a USB serial bus. However, Gernert et al. discloses that one of its serial buses is a USB bus **[col. 10, lines 47-48]**. Both Bradshaw et al. and Gernert et al. involve integrated services. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the USB bus because integrated services require interoperability between transmissions which contribute to improved performance characteristics as well as universal compatibility.

8. With regard to claims 4, 12, and 20, Bradshaw et al. discloses all teaches that MPEG format data is packaged into DVB protocol format **[col. 2, lines 66-67]**, and TCP/IP data is encapsulated into an Ethernet MAC data frame **[col. 7, lines 62-63]**, that is, multi-layer protocol with support for DVB.

9. With regard to claim 5, Bradshaw et al. discloses that the data exchanged over the satellite link is TCP/IP **[col. 3, lines 37-39]**.

10. With regard to claims 8, 16, and 24, Bradshaw et al. discloses that the packet-switched network is the internet **[Fig. 2, element 24]**.

11. With regard to claims 13 and 21, Bradshaw et al. discloses IP **[col. 7, lines 62-63]**, an IETF-standardized protocol used for interfacing receiver and transmitter units, as well as for transmitting data.

12. Claims 6, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. in view of Gernert et al. as applied to claims 1, 9, and 17 above, and further in view of Birdwell et al. (US Patent Publication 2001/0024435).

13. With regard to claims 6, 14, and 22, Bradshaw et al. does not specifically disclose little and big endian data formats. However, Birdwell et al. discloses endian formats for IP packets transmitted over a satellite link **[paragraph 0058]**. Bradshaw et al. requires the determination of the beginning, the end, the LSB, and/or the MSB of the transmitted data frames in order to process the data frames. Endian formats aid in determining whether the first byte in the transmitted frames is the LSB or MSB. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the teachings of Bradshaw et al. in processing of transmitted data frames to have used the endian formats to aid in determining the

LSB and MSB so that data alignment can be achieved at the receiver for either synchronization or CRC calculations.

14. Claims 7, 15, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. in view of Gernert et al. as applied to claims 1, 9, and 17 above, and further in view of Jorgenson et al. (USP 6,680,922).

15. With regard to claims 7, 15, and 23, Bradshaw et al. does not specifically disclose IGD packets. However, Jorgenson disclosed UDP for transmission of packets over a wireless link **[col. 12, lines 46-48]**. IGD packets are formed from UDP packets. Therefore, it is inherent that UDP datagrams can convey useful information parameters about the wireless link including the return channel ID and loading information.

16. Claims 25, 27, 28, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al. in view of Gernert et al. and further in view of Dillon et al. (USP 6,338,131).

17. With regard to claim 25, Bradshaw et al. discloses the transmission of TCP/IP data over a satellite link from a hub station to a plurality of remote terminal units **[Abstract]**. Bradshaw et al. further teaches user terminals **[col. 4, lines 58-61]** (hosts) connected to remote units **[col. 4, lines 65-67]** (terminal unit). The remote unit contains a receiver **[col. 4, lines 14-15]** and a transmitter **[Fig. 8]** for two-way communication. Bradshaw et al. also teaches the hub use of DVB format data frames **[col. 3, lines 47-49]**. It is inherent that the receiver must contain MAC

to DVB converter **[col. 12, lines 38-40]** to conform to DVB protocol format that is supported by the hub **[col. 3, line 49]**. Bradshaw et al. also teaches an RF receiver coupled to an antenna to permit exchange of data between the remote terminal and the satellite **[Fig. 10]**. It is inherent that a burst demodulator must be present in the RF receiver for demodulating the signal over the satellite link due to the nature of satellite communications. The data frame conforms with the DVB protocol format (i.e., the return channel frame format **[col. 3, line 49]**. The satellite-to-hub interface is inherent in the Bradshaw et al. specification. Moreover, the hub station **[Fig. 2, 104]** is shown with the antenna and the RF transmitter/receiver (inherent). Thus, these elements are interpreted as the satellite-to-hub interface. Bradshaw et al. further teaches that the hub is connected to an external packet switched network **[Fig. 2, element 24; col. 4, lines 25-29]**. Which, in this case, is the internet. It is inherent that the hub must be able to convert the protocol data frame receive over satellite to requests from content servers **[col. 5, lines 13-17]**. Bradshaw et al. teaches a multi-layer protocol interface for the hub-to-terminal as the TCP/IP data is encapsulated into a MAC data frame **[col. 7, lines 62-63]** and because the TCP/IP frames are also formatted within the DVB frame **[col. 8, lines 47-51]**.

18. Bradshaw et al. fails to specifically disclose the transmission of data bursts from the terminal to the host wherein the data bursts conform to a bus standard of the host **[although, as noted above, it is inherent in satellite communications to have a burst channel demodulator]**. Gernert et al. discloses several bus standards for connecting the host **[col. 10, lines 47-48]**. The buses specifically support (common knowledge) bursty video traffic. Gernert et al. discloses wireless LAN communications **[Abstract]**. Bradshaw et al. discloses both hardwired and

wireless terminals connected to hosts via LAN 116. The can be a standardized bus such as the IEEE 802.6 DQDB for conveying bursty video, which also has the advantage of improved performance characteristics. Moreover, both Bradshaw et al. and Gernert et al. involve integrated services. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the LAN bus capable of handling bursty traffic because integrated services require interoperability between receipt and use of regular and bursty transmissions that contribute to improved performance characteristics.

19. With regard to clam 27, Bradshaw et al. dos not specifically disclose a USB serial bus. However, Gernert et al. discloses that one of its serial buses is a USB bus **[col. 10, lines 47-48]**. Both Bradshaw et al. and Gernert et al. involve integrated services. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the two-way satellite communications of Bradshaw et al. with the USB bus because integrated services require interoperability between transmissions which contribute to improved performance characteristics as well as universal compatibility.

20. With regard to claim 28, Bradshaw et al. does not specifically disclose processors executing instructions to configure one or more of the interfaces. However, Dillon et al. discloses a satellite-based internet access system. The system of Dillon et al. contains several elements, including an application server and interface, hybrid gateway, and satellite gateway. A processor, executing instructions stored in memory may configure the gateway and the interfaces

[col. 3, lines 59-62]. It is inherent that the same processor operating under instructions stored in memory, can also configure other/multiple interfaces. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the two-way satellite communications system of Bradshaw et al. to include the stored instructions executing in the processors of Dillon et al. because integrated services require interoperability between transmissions which contribute to improved performance characteristics as well as universal compatibility as well as flexibility.

21. With regard to claim 29, Bradshaw et al. discloses IP **[col. 7, lines 62-63]**, an IETF-standardized protocol used for interfacing receiver and transmitter units, as well as for transmitting data.

22. With regard to claim 32, Bradshaw et al. discloses that the packet-switched network is the internet **[Fig. 2, element 24]**.

23. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al., Gernert et al., and Dillon et al. as applied to claim 25 above, and further in view of Birdwell et al.

24. With regard to claim 30, Bradshaw et al. does not specifically disclose little and big endian data formats. However, Birdwell et al. discloses endian formats for IP packets transmitted over a satellite link **[paragraph 0058]**. Bradshaw et al. requires the determination of the beginning, the

end, the LSB, and/or the MSB of the transmitted data frames in order to process the data frames. Endian formats aid in determining whether the first bytes in the transmitted frames are the LSB or MSB. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used the teachings of Bradshaw et al. in processing of transmitted data frames to have used the endian formats to aid in determining the LSB and MSB so that data alignment can be achieved at the receiver for either synchronization or CRC calculations.

25. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bradshaw et al., Gernert et al., and Dillon et al. as applied to claim 25 above, and further in view of Jorgenson et al. (USP 6,680,922).

26. With regard to claim 31, Bradshaw et al. does not specifically disclose IGD packets. However, Jorgenson disclosed UDP for transmission of packets over a wireless link **[col. 12, lines 46-48]**. IGD packets are formed from UDP packets. Therefore, it is inherent that UDP datagrams can convey useful information parameters about the wireless link including the return channel ID and loading information. Moreover, UDP/IP packets can encapsulate multiple data types, including IGD packets.

Response to Arguments

27. Applicant's arguments filed 14 November 2005 have been fully considered but they are not persuasive.

28. Applicant states that Bradshaw does not have a terminal-host interface that supports transmission of burst data conforming to the host's bus standard (e.g., a serial bus standard) **[Applicant's After Final Amendment dated 14 November 2005, page 8, line 21 to page 9, line 8]**. Applicant argues that Gernert et al. teaches that gateways interface with other nodes via serial interfaces only over conventional data connections (and, thus, apparently excludes wireless/satellite data connections) **[*See Id.*]**.

29. As stated above for claims 1, 9, 17, and 25, although Bradshaw et al. does not specifically disclose the transmission of data bursts from the terminal to the host. However, integrated services (e.g., those provided by gateways) require interoperability between receipt and use of regular and bursty transmissions that contribute to improved performance characteristics **[See rejection paragraphs above for independent claims 1, 9, 17, and 25]**. Gateways *necessarily* convert data from one format required for one type of network to a format required for another. The networks can be wired or wireless/satellite. This is the function of a gateway.

30. Applicant argues that the examiner has used hindsight reasoning **[Applicant's After Final Amendment dated 14 November 2005, page 9, lines 21-25]**.

31. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into

account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

32. Applicant argues that the examiner has used an "obvious to try" standard in combining references (and, therefore, that there is no suggestion to combine references) **[Applicant's After Final Amendment dated 14 November 2005, page 9, line 26 to page 10, line 11]**.

33. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the question is *not* whether it would have been "obvious to try," as Applicant argues, but whether it would have been obvious to one of ordinary skill in the art at the time of the invention to convert data from one format required for one type of network to a format required for another. In other words, whether a gateway provides integrated services. Inherently, a gateway provides integrated services and, thus, necessarily converts data from one format required for one type of network to a format required for another. Therefore, as stated in the

rejections for claims 1, 9, 17, and 25 above, it would have been obvious to combine Bradshaw et al. with Gernert et al.

Conclusion

34. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Mais whose telephone number is (571) 272-3138. The examiner can normally be reached on 6:00-4:30.

35. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

36. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

November 28, 2005

Ajit Patel
Primary Examiner